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Cost Saving Tips - Part II: Sediment Controls

Part II of the *Cost-Saving Tips* bulletin series focuses on sediment control Best Management Practices (BMPs). Part III will focus on cost saving tips for non-storm water practices.

Don't Rely on Inlet Protection

Drainage inlet protection is not always the answer. **Photo 1** depicts sandbags used as drainage inlet protection on an active street. When placed in areas with public and construction traffic, there is a good chance the barrier will be run over and destroyed, as happened in this situation. Rather than incurring the expense of constantly replacing broken sandbags, the contractor would be better off keeping the street clean and using upstream controls to prevent sediment-laden water from entering the flowline. The photo also shows the contractor's water tank upstream from the inlet. A better location would be downstream to prevent overflow water from washing sediment into the inlet.

Photo 1: Broken sandbags at a drainage inlet.

Apply the Proper BMP

Proper application of sediment controls is an important aspect of keeping compliance costs under control. **Photo 2** depicts a silt fence placed in a center median drainage swale. A series of these silt fences were installed as check dams to reduce the velocity of the water, thereby reducing potential downstream erosion.

Photo 2: Inappropriate use of a sediment control.

While check dams are an effective practice for reducing erosion in concentrated flow lines, silt fence is not designed for use in concentrated flow areas. The silt fence in the photo, while demonstrating the ability to slow and pond water, was overwhelmed and failed soon after this photo was taken. Alternative methods for managing concentrated flows include installing rock or sand bag check dams, a series of sediment traps to reduce water velocity and provide ponding, or providing a lined channel to eliminate or reduce erosion.

Be Creative

Communication between the Resident Engineer and contractor can lead to creative and cost-effective solutions on a project. **Photo 3** depicts a drainage inlet within a loop ramp protected with a natural vegetation filter. This vegetative filter protects the ground from the erosive effects of rainfall, as well as intercepting and slowing storm water runoff and filtering out any suspended sediment prior to discharge to the drain inlet. This particular application is best used in areas of sheet flow, and would not work well for high velocity concentrated flow. The vegetation was cleared from another area on the project and recycled rather than thrown away. This method was less expensive than traditional sediment controls. Another advantage is the relative ease of installation and maintenance. Stockpiles of cleared vegetation can be kept on site to replace the filter as sediment accumulates. Consider placing silt fence at the inlet to prevent vegetative material from entering.

Photo 3: Cleared vegetation recycled and used as a filter.

Additional Tips

Some final cost saving tips for sediment control measures:

- Install linear sediment barriers correctly the first time.
- Keep up on the maintenance of barriers. It is better to maintain than replace.
- Cover sandbag stockpiles to prevent deterioration from ultraviolet rays.

STORM WATER HOME